

MEMO THRU: Chief, GeoEnv Eng Sec
Cost Eng Sec

14 September 2001

TO: James Kendall (Cost Eng Sec)

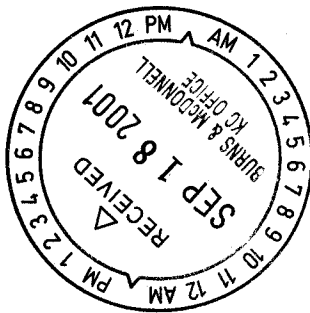
SUBJECT: Asbestos Inspection Reports for F-22 Beddown Facility, Langley AFB, Virginia

1. Attached please find two (2) copies of the Amended Asbestos Inspection Report for Building 756, which describes the sampling of the high exterior red soffit, and interior vault area, performed by Marine Chemist in late July.
2. Please also refer to the two (2) copies of the subject original reports for Building 756, which I delivered to you (plus a copy to George Gogel), on 23 May 2001. The revisions to the original report, as described in the attached addendum, are briefly summarized below.
 - § General Note #33, on page 16 of the original report, states that the vault area was not accessible for survey and inspection, and therefore costs related to potential ACM were not included. General Note #6, on page 6 of this addendum, however, states that the quantity of flooring material was included in the original estimate. This is not a contradiction, as the original report comment was apparently intended to refer to potential pipe insulation, or other ACM on unidentified ceiling or wall surfaces. Therefore, the estimate in the original report is accurate, regarding floor tiling.
 - § Please note that, according to the tables on page 4 of this addendum, the estimated total removal cost has increased by \$200. This is to remove the ACM discovered in the exterior soffit, which was recently accessed and sampled. The new total is \$216,801.00.
3. Should you have any questions, please call at x7098, drop by at Bldg. 36, or e-mail me.

Randall C. Born, P.E.
Randall C. Born, P.E.
GeoEnv Sec

Encls

CC: George Gogel



AMENDED
ASBESTOS INSPECTION REPORT
FOR
LANGLEY AIR FORCE BASE
BUILDING 756
HAMPTON, VA 23665

Prepared for:
Mr. Randy Born
US Army Corps. Of Engineers
803 Front Street
Norfolk, VA 23510

Prepared by:
Angela Mulleano
Asbestos Inspector #002382
Marine Chemist Service, Inc.
11850 Tug Boat Lane
Newport News, VA 23606

ASBESTOS INSPECTION

Background and Purpose

There has been a growing public awareness of the link between the inhalation of asbestos fibers and various diseases such as asbestosis, mesothelioma, lung and other cancers. As a result, the Asbestos Hazard Emergency Response Act (AHERA 40 CFR Part 763), was established.

The necessary components of an AHERA inspection require the accredited inspector to visually inspect and assess the condition of all known or assumed friable asbestos-containing building materials (ACBM); to visually inspect non-friable ACBM and touch it to determine friability, and to identify homogeneous areas of friable materials.

The National Emission Standards for Hazardous Air Pollutants (NESHAPS) require thorough inspections for asbestos in structures before the renovation or demolition of those structures.

In order to comply with NESHAPS, buildings to be renovated or demolished must be thoroughly inspected for asbestos containing building materials. Marine Chemist Service, Inc. follows the AHERA sampling protocol for interior surveys and the old Virginia standard for roof surveys.

In compliance with Virginia Regulations, Marine Chemist Service Inc. performed a partial asbestos inspection of the Vault area and soffit materials located in Building 756 Hanger, Langley Air Force Base, Hampton, VA. On July 24, 2001 for the US Army Engineer District, Norfolk, VA. The results of this inspection are as follows:

Document Review and On-Site Survey

1. In April of 2001, an inspection was conducted of suspect asbestos containing material in Building 756- Hanger. The Vault area was restricted at the time of this inspection and no samples were taken. Due to inaccessibility to this area, all materials in this area were considered asbestos.
2. Access to this vault area was gained on July 24, 2001, Marine Chemist Service conducted a partial inspection of the vault area and samples were taken to positively identify any suspect materials.
3. Blueprints were provided for the inspection; however, sketches were made of current floor plan at the time of the survey to indicate sample/asbestos material locations.

Visual Inspection

A visual inspection was performed on the materials found in the survey areas.

Bulk Sampling

Bulk sampling was performed on suspected asbestos-containing material found in the vault area of building 756 and the minimum numbers of samples were taken.

Bulk samples were taken penetrating all layers of the material. The samples were at least 1 cubic centimeter and were placed in a sealed container at the time of collection. All precautions were taken to prevent exposure to those present in or around the facility during the collection of samples.

All sampling locations were patched with an encapsulant after the sampling was complete.

The minimum number of samples was taken for distinct type of suspect asbestos material.

Samples listed below are grouped into homogeneous areas. Homogeneous areas are areas that are uniform by color, texture, construction/application date and general appearance.

Some sample results in the % asbestos column may be displayed in this report with a slash between two numbers, (##/##). The first number represents the first material listed under the material location/description and the second number represents the second material listed.

When N/A is placed in the friable category, it means the sample tested negative - (0) or less than one percent - ($\leq 1\%$) for asbestos and the friable description does not apply.

Samples were analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining. The results are as follows:

SAMPLE NO.	MATERIAL LOCATION/DESCRIPTION	% ASBESTOS	Y/N FRIABLE
756-1	Exterior red soffit material	20%	N
756-2	Exterior red soffit material	30%	N
756-3	Blue carpet adhesive in vault area	0%	N/A
756-4	Blue carpet adhesive in vault area	0%	N/A
756-5	Blue carpet adhesive in vault area	0%	N/A
756-6	12x12 tan floor tile / adhesive in vault area	0/10%	N
756-7	12x12 tan floor tile / adhesive in vault area	0/10%	N
756-8	12x12 tan floor tile / adhesive in vault area	0/10%	N

Comments

1. On July 24, 2001, Marine Chemist Service conducted a partial inspection of red soffit material, blue carpet adhesive in vault area and 12x12 tan floor tiles and adhesive in vault area.

2. **Samples #756-1 and #756-2 were taken of red soffit. This soffit material tested positive for asbestos, it contains between 20-30% asbestos. This material is considered non-friable.**
3. **The soffit material was not included in the previous survey estimate.**
4. **Samples #756-3, #756-4 and #756-5 were taken of blue carpet adhesive. Located in the vault area. This carpet adhesive tested negative for asbestos. However, the 12x12 tan floor tile and adhesive can also be located under this carpet. The floor tiles tested negative for asbestos, but the floor tile adhesive contains 10% asbestos.**
5. **Samples #756-6, #756-7 and #756-8 were taken of 12x12 tan floor tile and adhesive. Located in the vault area. The floor tile tested negative for asbestos. However, the floor tile adhesive contains 10% asbestos. This material is considered non-friable. The quantities of this flooring material were included in the estimated of the previous survey.**

Previous survey

Estimated Quantities of Asbestos Materials

ASBESTOS CONTAINING MATERIALS	QUANTITY	COST/ PER UNIT	REMOVAL COST
Roof cement 1 st floor roof	984 linear ft.	\$ 8.00	\$ 7,872.00
Roof caulking material 2 nd floor roof	90 linear ft.	\$ 8.00	\$ 720.00
Black sealer on A/C unit 2 nd floor	196 Sq. ft.	\$ 8.00	\$ 1,568.00
Gray roof coating (small and large hanger roof)	29,067 Sq. ft.	\$ 3.00	\$ 87,201.00
Roof shingle	60 Sq. ft.	\$ 4.00	\$ 240.00
Pink & green carpet adhesive/green floor tile/ tile/adhesive	3,571 Sq. ft.	\$ 2.00	\$ 7,142.00
9x9 floor tile and adhesive	954 Sq. ft.	\$ 2.00	\$ 1,908.00
Red floor tile/ adhesive/green floor tile /adhesive	3,552 Sq. ft.	\$ 2.00	\$ 7,104.00
Tan floor tile/adhesive/flooring material/adhesive	4,684 Sq. ft.	\$ 2.00	\$ 9,368.00
Red & blue carpet adhesive/floor tile/ adhesive/ floor tile/ adhesive/floor tile/adhesive/floor tile/adhesive	1,185 Sq. ft.	\$ 2.00	\$ 2,370.00
Brown and white Sealer on fiberglass duct / A/C units	7,308 Sq. ft.	\$ 2.00	\$ 14,616.00
2x4 white ceiling tiles	252 Sq. ft.	\$ 2.00	\$ 504.00
Pipe insulation/ elbows	1,674 linear ft.	\$ 40.00	\$ 66,960.00
Exterior window caulking material	494 linear ft.	\$ 2.00	\$ 988.00
Windows panels	36 Sq. ft.	\$ 2.00	\$ 72.00
Exterior window glazing material	552 linear ft.	\$ 2.00	\$ 1,104.00
1'x1' ceiling tiles/ adhesive	1,248 Sq. ft.	\$ 3.50	\$ 4,368.00
2x2 contaminate ceiling tiles under 1'x1' ceiling tiles	1,248 Sq. ft.	\$ 2.00	\$ 2,496.00
Total Estimate			\$ 216,601.00

Amended Estimated Quantities of Asbestos Materials

ASBESTOS CONTAINING MATERIALS	QUANTITY	COST/ PER UNIT	REMOVAL COST
Exterior red soffit material	200 Sq. ft.	\$ 1.00	\$ 200.00
Previous estimated total			\$ 216,601.00
Total Estimate			\$ 216,801.00

Certification

The contractor for the survey of Building 756 of Langley Air Force Base, Hampton VA was:

**MARINE CHEMIST SERVICE, INC.
11850 Tug Boat Lane
Newport News, Virginia 23606**

The team leader responsible for quality control coordination of inspections and adherence to inspection protocols is:

**Colleen Becker CIH.
MARINE CHEMIST SERVICE, INC.
11850 Tug Boat Lane
Newport News, Virginia 23606**

The inspector who physically inspected the building and who has received EPA-Approved training is:

**Angela Mulleano
VA Asbestos Inspector License
002380**

The AIHA and NVLAP Accredited laboratory selected to analyze the bulk samples for asbestos content by PLM, using the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples (Appendix A to Subpart F in 40 CFR Part 763) was:

**MARINE CHEMIST SERVICE, INC.
11850 Tug Boat Lane
Newport News, Virginia 23606**

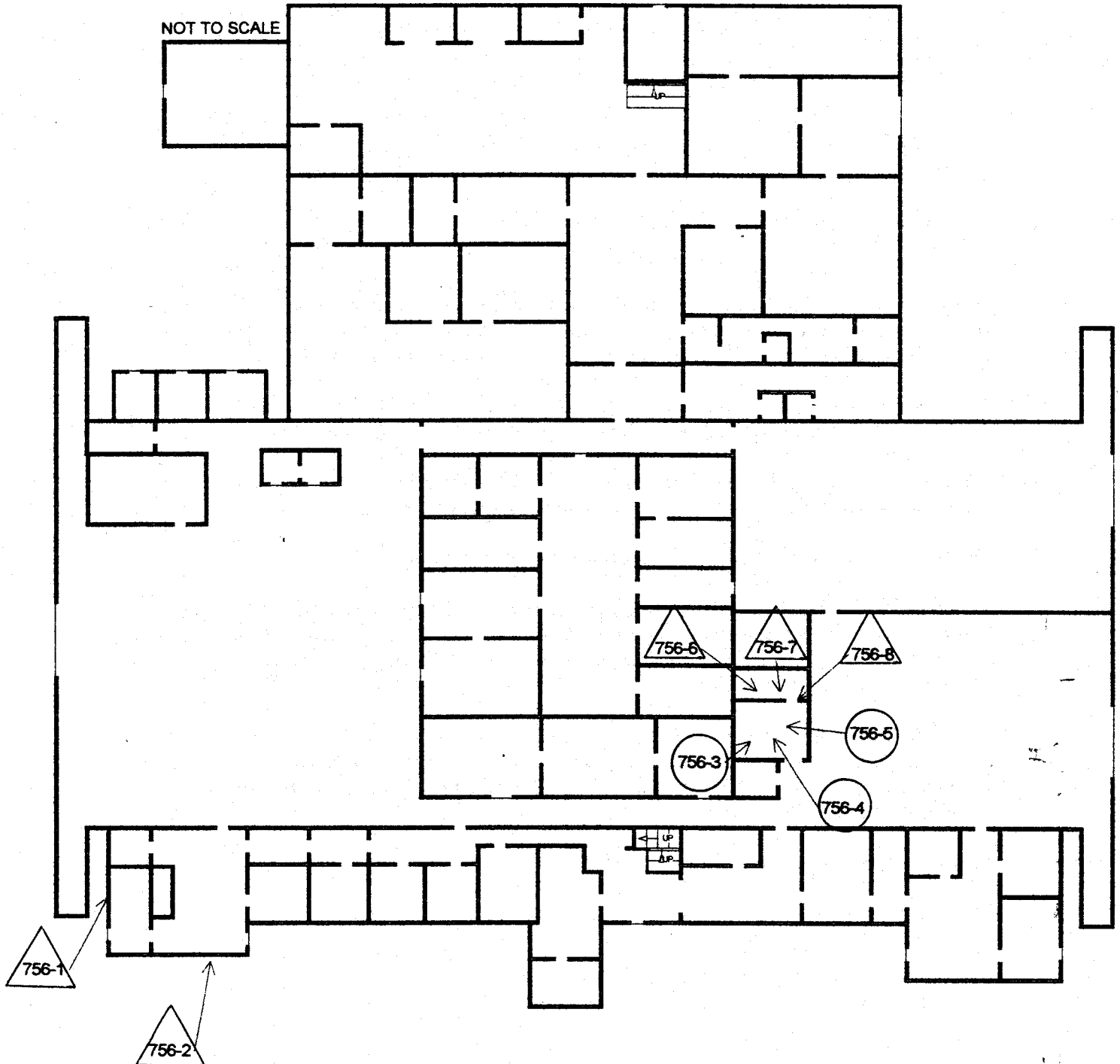
GENERAL LEGEND

- Sample number/location - non asbestos
- △ Sample number/location - contains asbestos

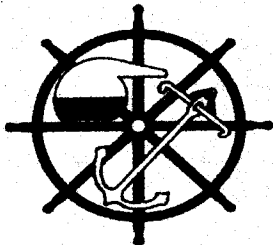
GENERAL NOTES

1. In April of 2001, an inspection was conducted of suspect asbestos containing material in Building 756- Hanger. The Vault area was restricted at the time of this inspection and no samples were taken. Due to inaccessibility to this area, all materials in this area were considered asbestos.
2. Access to this vault area was gained on July 24, 2001, Marine Chemist Service conducted a partial inspection of the vault area and samples were taken to positively identify any suspect materials.
3. Samples #756-1 and #756-2 were taken of red soffit. This soffit material tested positive for asbestos, it contains between 20-30% asbestos this material is considered non-friable.
4. The soffit material was not included in the previous survey estimate.
5. Samples #756-3, #756-4 and #756-5 were taken of blue carpet adhesive. Located in the vault area. This carpet adhesive tested negative for asbestos. However, the 12x12 tan floor tile and adhesive can also be located under this carpet. The floor tiles tested negative for asbestos, but the floor tile adhesive contains 10% asbestos.
6. Samples #756-6, #756-7 and #756-8 were taken of 12x12 tan floor tile and adhesive. Located in the vault area. The floor tile tested negative for asbestos. However, the floor tile adhesive contains 10% asbestos. This material is considered non-friable. The quantities of this flooring material were included in the estimated of the previous survey.
7. Sample locations are approximate.
8. The sketches are not to scale

LANGLEY AIR FORCE BASE
BUILDING 755 HAMPTON, VA
AMENDED FLOOR PLAN



**Marine
Chemist
Service
Inc.**



11850 Tug Boat Lane
Newport News, Virginia 23606
(757) 873-0933 - Fax (757) 873-1074

Customer:

U.S. Army Corps. of Engineers
Attention: Randy Born
803 Front Street
Norfolk, VA 23510

Lab Report No. 35499

Date August 1, 2001

Sample Description:

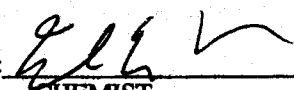
Langley Air Force Base
Building 756
Job No. 00-041S

Method of Analysis:

EPA 600/R-93/116 Method for the
Determination of Bulk Asbestos

REPORT OF ANALYSIS

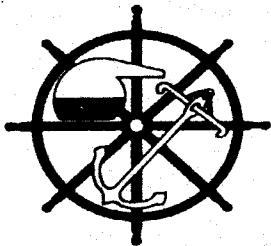
- (1) Sample #756-1, Red Soffit Material.
Macroscopic: (1) 100% of this sample is red, particulate material.
Microscopic: (1) Approximately 20% of sample is chrysotile asbestos. The remaining 80% of this sample is non-fibrous material.
Total Asbestos Percentage = 20%.
- (2) Sample #756-2, Red Soffit Material.
Macroscopic: (1) 100% of this sample is red, particulate material.
Microscopic: (1) Approximately 30% of sample is chrysotile asbestos. The remaining 70% of this sample is non-fibrous material.
Total Asbestos Percentage = 30%.
- (3) Sample #756-3, Blue Carpet Adhesive in Vault Area.
Macroscopic: (1) 100% of this sample is beige, adhesive material.
Microscopic: (1) The fibrous portion of this sample consists of a non-asbestiform material (i.e. 10% cellulose). The remaining 90% of this sample is non-fibrous material.
Total Asbestos Percentage = No Asbestos Detected.
- (4) Sample #756-4, Blue Carpet Adhesive on Vault Area.
Macroscopic: (1) 100% of this sample is beige, particulate material.
Microscopic: (1) The fibrous portion of this sample consists of a non-asbestiform material (i.e. 10% cellulose). The remaining 90% of this sample is non-fibrous material.
Total Asbestos Percentage = No Asbestos Detected.
- (5) Sample #756-5, Blue Carpet Adhesive on Vault Area.
Macroscopic: (1) 100% of this sample is beige, fibrous and particulate material.
Microscopic: (1) The fibrous portion of this sample consists of a non-asbestiform material (i.e. 10% cellulose). The remaining 90% of this sample is non-fibrous material.
Total Asbestos Percentage = No Asbestos Detected.

SIGNED: 
CHEMIST

Page 1 of 2

ENVIRONMENTAL TESTING LABORATORY AND INDUSTRIAL HYGIENE SERVICES
MARINE CHEMIST CERTIFICATIONS, ASBESTOS, OIL, WATER, WASTEWATER, LEAD, SOIL, HAZARDOUS WASTE SAMPLING AND
ANALYSIS, NONDESTRUCTIVE TESTING, FEED WATER SUPPLY AND ANALYSIS, TRAINING CLASSES

Marine
Chemist
Service
Inc.



11850 Tug Boat Lane
Newport News, Virginia 23606
(757) 873-0933 – Fax (757) 873-1074

Customer:

U.S. Army Corps. of Engineers
Attention: Randy Born
803 Front Street
Norfolk, VA 23510

Lab Report No 35499

Date August 1, 2001

Sample Description:

Langley Air Force Base
Building 756
Job No. 00-041S

Method of Analysis:

EPA 600/R-93/116 Method for the
Determination of Bulk Asbestos

REPORT OF ANALYSIS

- (6) Sample #756-6, 12 x 12 tan Floor Tile/Adhesive.
Macroscopic: (1) Approximately 90% of this sample is white, tile material.
(2) Approximately 10% of this sample is black, mastic material.
Microscopic: (1) 100% of this layer is non-fibrous material.
(2) Approximately 10% of layer is chrysotile asbestos. The remaining 90% of this layer is non-fibrous material.
Total Asbestos Percentage = 1%.
- (7) Sample #756-7, 12 x 12 Tan Floor Tile/Adhesive.
Macroscopic: (1) Approximately 90% of this sample is white, tile material.
(2) Approximately 10% of this sample is black, mastic material.
Microscopic: (1) 100% of this layer is non-fibrous material.
(2) Approximately 10% of layer is chrysotile asbestos. The remaining 90% of this layer is non-fibrous material.
Total Asbestos Percentage = 1%.
- (8) Sample #756-8, 12 x 12 Tan Floor Tile/Adhesive.
Macroscopic: (1) Approximately 90% of this sample is white, tile material.
(2) Approximately 10% of this sample is black, mastic material.
Microscopic: (1) 100% of this layer is non-fibrous material.
(2) Approximately 10% of layer is chrysotile asbestos. The remaining 90% of this layer is non-fibrous material.
Total Asbestos Percentage = 1%.

NOTE: SAMPLES TAKEN BY LABORATORY 7/24/01. TEST REPORT RELATES ONLY TO THE ITEMS TESTED.

-This report shall not be reproduced by the client, except in full, without the written approval of this laboratory.

-This report must not be used by the client to claim product endorsement by NVLAP or the U.S. Government.

-Due to the inhibiting matrix of non-friable organically bound (NOB) samples and the possibility of asbestiform minerals being present in a size (<5um) undetectable by PLM in some materials, MCS may suggest the analysis by TEM for samples such as floor tiles, caulking, roofing, etc.

Method Detection Limit =<1%.

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Page 2 of 2

ENVIRONMENTAL TESTING LABORATORY AND INDUSTRIAL HYGIENE SERVICES
MARINE CHEMIST CERTIFICATIONS, ASBESTOS, OIL, WATER, WASTEWATER, LEAD, SOIL, HAZARDOUS WASTE SAMPLING AND ANALYSIS, NONDESTRUCTIVE TESTING, FEED WATER SUPPLY AND ANALYSIS, TRAINING CLASSES